ANALYTICA CHIMICA ACTA, VOL. 213 (1988)

AUTHOR INDEX

Asano, Y., see Karube, I. 69 Ashworth, D.C.

—, Huang, H.P. and Narayanaswamy, R. An optical calcium ion sensor 251

Ashworth, R.H., see Flanagan, M.T. 23 Axelsson, J.P.

Experimental techniques and data treatment for studying the dynamics of ethanol production/consumption in baker's yeast 151

Beaubien, A., see Jolicoeur, C. 165
Bediye, S., see van der Meer, J.M. 177
Beer, D., de, see de Beer, D. 259
Best, D.J., see Hall, G.F. 113
Blöcker, G., see Schroeder, F. 223
Boerama, W.J.A.

—, Claassen, E., Deen, C., Gerritse, K., Haaijman, J.J. and Zegers, N.D. Antibodies to short synthetic peptides for specific recognition of partly denatured protein 187

Claassen, E., see Boersma, W.J.A. 187 Cook, E.J., see Taylor, R.F. 131

Daniels, I., see Johansson, H.O.J. 207 De Beer, D.

- and van den Heuvel, J.C.

Gradients in immobilized biological systems 259

Deen, C., see Boersma, W.J.A. 187 Dettwiler, B., see Griot, M. 11

Dominguez, E.

—, Hahn-Hägerdal, B., Marko-Varga, G. and Gorton, L.

A flow-injection system for the amperometric determination of xylose with coimmobilized enzymes and a modified electrode 139

Duffy, P.

-, Saad, I. and Wallach, J.M.

New developments of conductometric measurements in analytical biochemistry 267

Dunn, I.J., see Griot, M. 11

Engasser, J.M., see Pons, M.N. 231

Fiechter, A., see Sonnleitner, B. 199 Flanagan, M.T.

Sloper, A.N. and Ashworth, R.H.
From electronic to opto-electronic biosensors: an engineering view 23

Gasamann, E., see Lüdi, H. 217 Gent, J., van, see van Gent, J. 35 Gerritse, K., see Boersma, W.J.A. 187 Gev. M.

-, Nagel, B., Weissbrodt, E. and Stottmeister, U.

Fast liquid chromatographic determination of organic acids in fermentation media with short glass columns 229

Gibson, T.D.

- and Woodward, J.R.

Continuous, reliable on-line analysis of fermentation media by simple enzymatic/ spectrophotometric assays 61

Gorton, L., see Dominguez, E. 139 Gorton, L.

- and Hedlund, A.

A flow-injection method for the amperometric determination of L-lactate with immobilized enzymes and a chemically modified electrode 91

Greve, J., see Kooyman, R.P.H. 35 Griot, M.

--, Dettwiler, B., Heinzle, E., Mayer, F. and Dunn, I.J.

Simple and rapid gas-chromatographic determination of volatile metabolites in fermentation broths 11

Grossenbacher, H., see Lüdi, H. 21

Haaijman, J.J., see Boersma, W.J.A. 187 Hahn-Hägerdal, B., see Dominguez, E. 139 Hall, G.F.

-, Best, D.J. and Turner, A.P.F.

The determination of p-cresol in chloroform with an enzyme electrode used in the organic phase 113

Hedlund, A., see Gorton, L. 91

Heinzle, E., see Griot, M. 11

Heuvel, J.C., van den, see van den Heuvel, J.C.

Huang, H.P., see Ashworth, D.C. 251 Hummel, W., see Nalbach, U. 55

Johansson, C., see Johansson, H.O.J. 207 Johansson, H.O.J.

—, Daniels, I., Sjöholm, P.-E., Svensson, R. and Johansson, C.

Designing and monitoring large-scale processes for biomolecule purification with an automated electrophoresis/staining system 207

Jolicoeur, C.

--, To, T.C., Beaubien, A. and Samson, R. Flow microcalorimetry in monitoring biological activity of aerobic and anaerobic wastewater-treatment processes 165

Karube, I.

—, Tamiya, E., Sode, K., Yokoyama, K., Kitagawa, Y., Suzuki, H. and Asano, Y. Application of microbiological sensors in fermentation processes 69

Kitagawa, Y., see Karube, I. 69 Knauth, H.-D., see Schroeder, F. 223 Kolkman, H., see Kooyman, R.P.H. 35

Kooyman, R.P.H.

—, Kolkman, H., van Gent, J. and Greve,
J.

Surface plasmon resonance immunosensors: sensitivity considerations 35 Kula, M.-R., see Nalbach, U. 55

Lüdi, H.

—, Gassmann, E., Grossenbacher, H. and Märki, W.

Capillary zone electrophoresis for the analysis of peptides synthesized by recombinant DNA technology 217

Marenchic, I.G., see Taylor, R.F. 131 Märki, W., see Ludi, H. 217

Marko-Varga, G., see Dominguez, E. 139 Mascini, M.

-, Moscone, D., Palleschi, G. and Pilloton, R.

In-line determination of metabolites and milk components with electrochemical biosensors 101 Mattiasson, B.

- and Miyabayashi, A.

Recording of the streaming potential over an affinity column in a continuous flow system as a means of quantifying proteins biospecifically 79

Mattiasson, B., see Miyabayashi, A. 121

Mayer, F., see Griot, M. 11

Meer, J.M., van der, see van der Meer, J.M. 177

Mise, K., see Miyahara, M. 273

Miyabayashi, A., see Mattiasson, B. 79 Miyabayashi, A.

- and Mattiasson, B.

An enzyme electrode based on electromagnetic entrapment of the biocatalyst bound to magnetic beads 121

Miyahara, M.

-, and Mise K.

Rapid method for detection of restriction endonuclease-producing strains in enteropathogenic bacteria 273

Moscone, D., see Mascini, M. 101 Müller, W.

Wehnert, G. and Scheper, T.

Fluorescence monitoring of immobilized micro-organisms in cultures

47

Nagel, B., see Gey, M. 229

Nalbach, U.

-, Schiemenz, H., Stamm, W.W., Hummel, W. and Kula, M.-R.

On-line flow-injection monitoring of the enzyme inductor L-phenylalanine in the continuous cultivation of *Rhodococcus* sp. MA 55

Narayanaswamy, R., see Ashworth, D.C. 251

Ndiomu, D.P.

- and Simpson, C.F.

Some applications of supercritical fluid extraction 237

Palleschi, G., see Mascini, M. 101

Pilloton, R., see Mascini, M. 101

Pons, M.N.

- and Engasser, J.M.

Monitoring of alcoholic fed-batch cultures by gas chromatography via a gas-permeable membrane 231

Saad, I., see Duffy, P. 267

Samson, R., see Jolicoeur, C. 165 Scheper, T., see Müller, W. 47 Schiemenz, H., see Nalbach, U. 55 Schroeder, F.

Blöcker, G. and Knauth, H.-D.

Apparatus for the investigation of microbial reaction rates in sediment suspensions 223

Schügerl, K.

On-line analysis and control of production of antibiotics 1

of antibiotics 1
Sernetz, M., see Willems, H. 245
Simpson, C.F., see Ndiomu, D.P. 237
Sjöholm, P.-E., see Johansson, H.O.J. 207
Sloper, A.N., see Flanagan, M.T. 23
Sode, K., see Karube, I. 69
Sonnleitner, B.

and Fiechter, A.

High-performance bioreactors: a new generation 199

Stamm, W.W., see Nalbach, U. 55 Stottmeister, U., see Gey, M. 229 Suzuki, H., see Karube, I. 69 Svensson, R., see Johansson, H.O.J. 20

Tamiya, E., see Karube, I. 69 Taylor, R.F.

-, Marenchic, I.G. and Cook, E.J.

An acetylcholine receptor-based biosensor for the detection of cholinergic agents 131

To, T.C., see Jolicoeur, C. 165 Turner, A.P.F., see Hall, G.F. 113

Van den Heuvel, J.C., see de Beer, D. 259 Van der Meer, J.M.

Wever, G. and Bediye, S.

Rumen bacteria for evaluation of enzymatically changed animal feeds and genetic varieties of fodder plants

Wallach, J.M., see Duffy, P. 267
Wehnert, G., see Müller, W. 47
Weissbrodt, E., see Gey, M. 229
Wever, G., see van der Meer, J.M. 17

Van Gent, J., see Kooyman, R.P.H. 35

Willems, H.

and Sernetz, M.
 Flow fluorimetric investigations on reaction kinetics of a growing analytical bioreactor 245

Woodward, J.R., see Gibson, T.D. 61

Yokoyama, K., see Karube, I. 69

Zegers, N.D., see Boersma, W.J.A. 187



ANALYTICA CHIMICA ACTA

International journal devoted to all branches of analytical chemistry

(Abstracted, indexed in: Anal. Abstr.; Biol. Abstr.; Chem. Abstr.; Curr. Contents Phys. Chem. Earth Sci.; Life Sci.; Index Med.; Mass Spectrom. Bull.; Sci. Citation Index; Excerpta Med.)

VOL. 213

CONTENTS

OCTOBER 15, 1988

Special issue on Analytical Methods and Problems in Biotechnology, ANABIOTEC '88 – Proceedings of the 2nd International Symposium held at Noordwijkerhout, The Netherlands, March 29–31, 1988.

Foreword by B. te Nijenhuis (Rijswijk, The Netherlands), C. van Dijk (Delft, The Netherlands), J. Kragten (Amsterdam, The Netherlands) and W.A. Scheffers (Delft,	
The Netherlands)	ix
On-line analysis and control of production of antibiotics K. Schügerl (Hannover, F.R.G.)	. 1
Simple and rapid gas-chromatographic determination of volatile metabolites in fermentation broths	
M. Griot, B. Dettwiler, E. Heinzle, F. Mayer and I.J. Dunn (Zürich, Switzerland)	. 11
From electronic to opto-electronic biosensors: an engineering view	
M.T. Flanagan, A.N. Sloper and R.H. Ashworth (London, Gt. Britain)	. 23
Surface plasmon resonance immunosensors: sensitivity considerations R.P.H. Kooyman, H. Kolkman, J. van Gent and J. Greve (Enschede, The Netherlands)	25
Fluorescence monitoring of immobilized micro-organisms in cultures	. 30
W. Müller, G. Wehnert and T. Scheper (Hannover, F.R.G.)	47
On-line flow-injection monitoring of the enzyme inductor L-phenylalenine in the continuous cultivation of Rhodococcus sp. M4	
U. Nalbach, H. Schiemenz, W.W. Stamm, W. Hummel and MR. Kula (Jülich, F.R.G.)	. 58
Continuous, reliable on-line analysis of fermentation media by simple enzymatic/ spectrophotometric assays	
T.D. Gibson and J.R. Woodward (Leeds, Gt. Britain)	6
Application of microbiological sensors in fermentation processes	
I. Karube, E. Tamiya, K. Sode, K. Yokoyama (Yokohama, Japan), Y. Kitagawa (Tokyo,	
Japan), H. Suzuki (Atsugi, Japan) and Y. Asano (Tokyo, Japan)	61
Recording of the streaming potential over an affinity column in a continuous flow system as a means of quantifying proteins biospecifically	
B. Mattiasson and A. Miyabayashi (Lund, Sweden)	79
A flow-injection method for the amperometric determination of L-lactate with immobilized enzymes and a chemically modified electrode	
L. Gorton and A. Hedlund (Lund, Sweden)	9
In-line determination of metabolites and milk components with electrochemical biosensors	10
M. Mascini (Florence, Italy), D. Moscone, G. Palleschi and R. Pilloton (Rome, Italy)	10
The determination of p-cresol in chloroform with an enzyme electrode used in the organic phase	
G.F. Hall, D.J. Best and A.P.F. Turner (Cranfield, Gt. Britain)	11
An enzyme electrode based on electromagnetic entrapment of the biocatalyst bound to magnetic beads	
A Misshaugehi and B Mattinggon (Lund Cuaden)	12

(Continued overleaf)

An acetylcholine receptor-based biosensor for the detection of cholinergic agents R.F. Taylor, I.G. Marenchic and E.J. Cook (Cambridge, MA, U.S.A.)	131
A flow-injection system for the amperometric determination of xylose and xylulose with co-immobilized enzymes and a modified electrode	
E. Dominguez, B. Hahn-Hägerdal, G. Marko-Varga and L. Gorton (Lund, Sweden) Experimental techniques and data treatment for studying the dynamics of ethanol production/consumption in baker's yeast	139
J.P. Axelsson (Lund, Sweden)	151
Flow microcalorimetry in monitoring biological activity of serobic and anserobic wastewater-treatment processes	
C. Jolicoeur, T.C. To, A. Beaubien (Sherbrooke, Que., Canada) and R. Sarnson (Montreal, Que., Canada)	105
Rumen bacteria for evaluation of enzymatically changed animal feeds and genetic varieties of fodder plants	105
J.M. van der Meer, G. Wever and S. Bediye (Lelystad, The Netherlands)	177
Antibodies to short synthetic peptides for specific recognition of partly denatured protein W.J.A. Boersma, E. Claassen, C. Deen, K. Gerritse, J.J. Haaijman and N.D. Zegers	
(Rijswijk, The Netherlands)	187
Short Communications	
High-performance bioreactors: a new generation	
B. Sonnleitner and A. Fiechter (Zürich, Switzerland)	199
Designing and monitoring large-scale processes for biomolecule purification with an automated electrophoresis/staining system	
H.O.J. Johansson, I. Daniels, PE. Sjöholm, R. Svensson and C. Johansson	
(Uppsala, Sweden)	207
Capillary zone electrophoresis for the analysis of peptides synthesized by recombinant DNA technology	
H. Lüdi, E. Gassmann, H. Grossenbacher and W. Märki (Basle, Switzerland)	215
Apparatus for the investigation of microbial reaction rates in sediment suspensions F. Schroeder, G. Blöcker and HD. Knauth (Geesthacht, F.R.G.)	221
Fast liquid chromatographic determination of organic acids in fermentation media with short glass columns	
M. Gey, B. Nagel, E. Weissbrodt and U. Stottmeister (Leipzig, G.D.R.)	227
Monitoring of alcoholic fed-batch cultures by gas chromatography via a gas-permeable membrane	
M.N. Pons and J.M. Engasser (Nancy, France)	231
Some applications of supercritical fluid extraction	
D.P. Ndiomu and C.F. Simpson (London, Gt. Britain)	237
Flow fluorimetric investigations on reaction kinetics of a growing analytical bioreactor H. Willems and M. Sernetz (Gießen, F.R.G.)	245
An optical calcium ion sensor D.C. Ashworth, H.P. Huang and R. Narayanaswamy (Manchester, Gt. Britain)	251
Gradients in immobilized biological systems	
D. de Beer and J.C. van den Heuvel (Amsterdam, The Netherlands)	259
New developments of conductometric measurements in analytical biochemistry P. Duffy, I. Saad and J.M. Wallach (Villeurbanne, France)	267
Rapid method for detection of restriction endonuclease-producing strains in	201
enteropathogenic bacteria	
M. Miyahara and K. Mise (Tokyo, Japan)	273
Author Index	279

